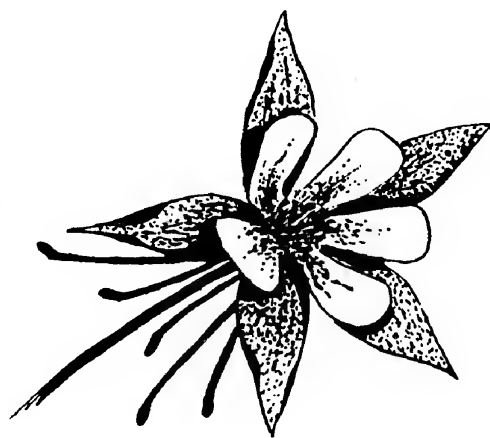


# Aquilegia



Newsletter of the Colorado Native Plant Society

"... dedicated to the appreciation and conservation of the Colorado native flora"

Volume 20 Number 2

April — June 1996

## San Luis Valley—Voyage of Discovery

**Carol (Scheid) Riley**  
Colorado State University

Imagine being given the chance to learn everything you wanted to know about a plant about which very little is known! To make this voyage of discovery even more enticing, let's further suppose that the plant grows in a beautiful, high altitude valley surrounded by snow-capped mountains. Most exciting in this journey of wonder are the large number of untold and fascinating secrets about the plant's habitat (why is it found in such "inhospitable" soils, where so little else grows?), its flower color (why do the petals change from light pink to rich purple over the course of its annual life cycle?), its seed dispersal (were seeds carried by migrating waterfowl all the way from the San Luis Valley to central Wyoming to establish new populations?), its adaptations to a changing environment ("bet-hedging" by keeping a "savings bank" of seeds in the soil that can germinate when environmental conditions are favorable), and many other aspects of its life cycle, reproduction, and ecological characteristics.

At the urging of the Colorado Program of The Nature Conservancy, and with financial support from the Conservancy, Colorado Natural Areas Program, and the Colorado Native Plant Society, I launched on the above-described voyage of investigation in the summer of 1994, as I

began my study of slender spiderflower (*Cleome multicaulis*), a rare wetland plant of the San Luis Valley. Why is it important to study this plant? Classified as a Candidate for Federal listing (the recent abolition of the U.S. Fish and Wildlife Service Candidate list notwithstanding), *C. multicaulis* has been collected recently only from the San Luis Valley and from one disjunct population in Wyoming. Draining of wetlands is thought to have contributed to a drastic decline in this species' range, although range-wide surveys have not recently been conducted. Slender spiderflower is one of several unique San Luis Valley species protected at The Nature Conservancy's recently acquired Mishak Lakes Preserve.

Slender spiderflower is a member of the Caper family, taxonomically related both to the larger, showier, and more common

Rocky Mountain beeplant (*Cleome serrulata*) and to another species which provides the capers (unopened flower buds) that flavor Italian pasta dishes. *Cleome multicaulis* is an annual that appears to grow only near wetlands with soils that are highly alkaline and highly saline. When left undisturbed, many of these so-called "playa" wetlands may dry up completely in the summer (as do the playas at Mishak Lakes), although the high water levels of many wetlands in the San Luis Valley are maintained year-round to improve waterfowl nesting habitat. Proposed and existing water development projects in the San Luis Valley may cause the shallow water table to drop as much as several feet, with unknown effects on many plant and animal species.

Through a four-year study of the slender spiderflower I will seek answers to such questions as 1) whether *C. multicaulis*

—Continued on page 2

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populations are more successful in managed or unmanaged wetlands, 2) how sensitive the species is to changes in soil conditions and fluctuations in the level of the shallow water table, 3) what might determine how many seeds germinate in any particular year from the soil seed "bank", and 4) what ecological factors are most important in determining the long-term persistence of populations of slender spiderflower in the San Luis Valley.

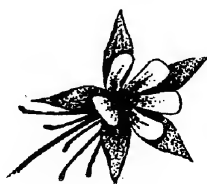
In searching for these answers, I'll be asking many more questions. Do the flowers change color to attract a different pollinator later in the season? Can the plants grow in standing water, or only moist soils? What environmental conditions are needed for the seeds to germinate? What is the best way to avoid getting lost while searching for a single 8 meter by 12 meter plot at Mishak Lakes? And, most importantly, how may I best

persuade decision makers that the complex wetland ecosystems on which slender spiderflower depends deserve to be carefully studied so they will yield their secrets, and fervently protected so that future generations may enjoy their glory.

*Note: Carol's research is partially funded by the John Marr Fund of the Colorado Native Plant Society, a small grants research fund supported by member contributions.*



## Colorado Native Plant Society



The Colorado Native Plant Society is a non-profit organization dedicated to the appreciation and conservation of the Colorado native flora. Membership is open to all with an interest in our native plants, and is composed of plant enthusiasts both professional and non-professional.

Please join us in helping to encourage interest in enjoying and protecting Colorado's native plants. The Society sponsors field trips, workshops and other activities through local chapters and statewide. Contact the Society, a chapter representative, or committee chair for more information.

### Schedule of Membership Fees

Life .....	\$250
Supporting .....	\$ 50
Organization .....	\$ 30
Family or Dual .....	\$ 15
Individual .....	\$ 12
Student or Senior .....	\$ 8

### Membership Renewal/Information

Please direct all membership applications, renewals and address changes to the Membership Chairperson, Colorado Native Plant Society, P.O. Box 200, Fort Collins, CO 80522. Please direct all other inquiries regarding the Society to the Secretary at the same address.



*Aquilegia* is published four to six times per year by the Colorado Native Plant Society. This newsletter is available to members of the Society and to others with an interest in native plants. Contact the Society for subscription information.

Articles from *Aquilegia* may be used by other native plant societies or non-profit groups if fully cited to author and attributed to *Aquilegia*.

### Newsletter Contributions

Please direct all contributions to the newsletter to:

Nina Williams  
976 Cherryvale Road  
Boulder, CO 80303  
E-Mail: NCybele@aol.com

Short items such as unusual information about a plant, a little known botanical term, etc., are especially welcome. Camera-ready line art or other illustrations are also solicited.

Please include author's name and address, although items will be printed anonymously if requested. Articles submitted on disks (IBM or Mac) are appreciated. Please indicate word processing software and version.



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Secretary .....	Mark Gershman .....	443-9365
Treasurer .....	Carol (Scheid) Riley .....	493-1367

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and .....	Tamara Naumann .....	374-2504
and .....	William A. Weber .....	492-6171
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and .....	Jeff Dawson .....	722-6758
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and .....	Ann Armstrong .....	494-0545
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Membership .....	Myrna Steinkamp .....	226-3371
and .....	Sue Martin .....	226-3371
Publicity .....	VACANT .....	
Workshops .....	Bill Jennings .....	666-8348

# ANNOUNCEMENTS

## Return of the Wildflowers A Celebration of Ecological Restoration

July 26-28, 1996

BRECKENRIDGE, COLORADO

### Sponsors:

Society for Ecological Restoration  
(Central Rockies Chapter)  
Colorado Native Plant Society  
City of Breckenridge  
U. S. Forest Service

### Activities:

- native plant sale
- book sale
- sidewalk seminars on restoration, gardening with natives, aspen from root cuttings, ready-to-go soil, and weed control
- field trips to local ecosystems
- tours of the Blue River Walk restoration project
- historic Breckenridge tours
- native garden tours

An added attraction—the Beethoven Music Festival will be held in Breckenridge the very same weekend.

Come out and enjoy summer time in the Rockies!

## NEWSLETTER COMMITTEE NEEDS NEW MEMBERS



Changes in habitat and responsibilities for Tamara and Nina have made newsletter production much more difficult over the past year. Tamara's move to Dinosaur and Nina's upcoming move to Cortez (not to mention her new little boy) are proving to be more than challenging for timely and efficient production of *Aquilegia*. The newsletter is an important service to CONPS members and needs the time and attention of someone who has adequate time and access to printers and to our bulk mail postal permit (Denver Terminal Annex).

If you are interested in taking this on, please call Nina Williams (303) 499-9858 or Tamara Naumann (970) 374-2504. It's been fun, but it's time to pass the torch. Here's your chance to test drive that new desktop publishing software you've installed on your home computer!



*Pulsatilla patens*  
Artist: Francis Ramaley

## Have You Discovered the Celebrating Wildflowers Hotline and Home Page?

Check out these hot new information sources.

The hotline is updated weekly—call:  
1-800-354-4595

for information about Celebrating Wildflowers events on the nation's public lands.

Look for the Wild-Flowers Home Page on the internet at:

<http://www.wild-flowers.com>

## High Altitude Revegetation

### Summer Field Tour

July 25 - 26, 1996

Sponsored by

High Altitude Revegetation Committee, Nilex Corporation,  
REVEX, Inc., Southwest Seed Company, &  
CSU—Department of Soil & Crop Science

Tour the reclamation/revegetation of the Durango Uranium Mill Tailing Remedial Action Site, the Sunnyside Gold Mine in Silverton, the Idarado Mine on Red Mountain and in Telluride, pre-construction site of the Uncompahgre River Restoration north of Ouray, and the Southwest Seed Company's farm and processing facility near Dolores. If you are interested in the tour, call Camille Farrell (970) 728-5487 or Gary Thor (970) 491-7296 for more information.

# Aquilegia

is printed on 100%  
recycled paper

# Lloyd Hayes—In Memoriam

Lloyd Hayes, President of the Colorado Native Plant Society from 1979 to 1982, died February 7th in Fort Collins, at the age of 86.

Born in Utah, Lloyd graduated with a forestry degree from the University of Idaho. Subsequently, he received graduate degrees in forestry from Yale University and the University of California, Berkeley. A 34 year career with the USDA-Forest Service took him to many areas of the country, and he had many amazing tales to tell of job assignments and research conducted during those years. Lloyd retired in 1969 as Assistant Director of the Rocky Mountain Forest and Range Experiment Station in Fort Collins; he and his wife Pauline continued to make their home in Fort Collins.

After his retirement Lloyd served as a forestry and ecological consultant for a number of years. However, as a very active person both physically and mentally, he found that even his passion for flyfishing did not keep him sufficiently busy. He cultivated an enormous garden, the bounty of which was willingly shared with neighbors and friends. Always interested in more than "just trees," he continued to expand his interest and knowledge of botany, especially of the Colorado flora, which held a particular fascination for him. He compiled lists of every plant to be found on his home property (native, weed, and horticultural plants alike!) and enjoyed the challenge of identifying an unknown plant or finding the first plant in flower each year in the foothills above Fort Collins. Soon his interests led him to the Colorado Native Plant Society, and he and Pauline became active participants in both the Fort Collins chapter and statewide CONPS activities.

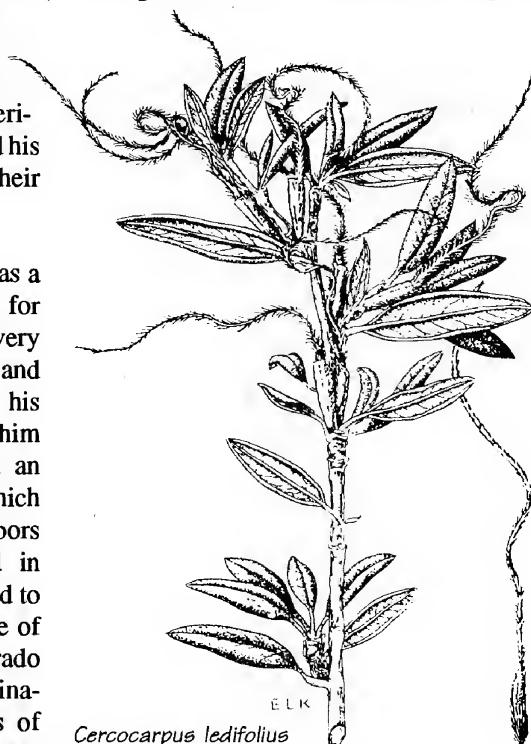
In its early years the Colorado Native Plant Society, like many fledgling organizations, suffered through ups and downs while trying to define more clearly its aims and functions. Obtaining good leadership for the Society was a challenge, as few were willing to take on the work necessary to build the organization. After one of the "down" periods, the CONPS Board of Directors approached Lloyd to run for the Board, having noted his interest. Somewhat reluctantly

he agreed to be nominated, but as fate would have it, he was not elected. However, when the newly elected Board's attention turned to the election of officers, the one name that came up as the person who could provide strong leadership and sustained interest was that of Lloyd Hayes. Lloyd was asked and graciously agreed to serve as President, to the Society's lasting benefit. During his tenure he established a strong and functional committee structure; held scheduled, highly organized, efficient meetings of the Board of Directors; and gave the Society a degree of organization and purpose it had lacked. Looking back with hindsight at the Society's history, it is easy to discern that Lloyd Hayes's leadership as President put the Society on a solid footing and began the upward climb in membership and public visibility that continue even now. It is certainly no overstatement to say that Lloyd played a major role in making the Society the strong and active organization it is today.

After he stepped down as President, Lloyd continued to serve on the Board for two more years, and even after that he continued to provide advice and help to succeeding officers. His strong interest in and commitment to the Society never waned. In 1986, in recognition of the significance of his service to the Colorado Native Plant Society, Lloyd was elected an Honorary Life Member. It was an honor he treasured.

Lloyd requested that memorial contributions go to CONPS or The Nature Conservancy, another group he valued for its conservation goals. Consequently, the Society's John Marr Fund has received many contributions in his honor. In addition, Lloyd's carefully indexed collection of slides of Colorado native plants has been added to the Society's collection.

Those who knew Lloyd through his CONPS affiliation will remember his gentle wit and unfailing good humor; his constant smile; his generosity in all ways; his devotion to his wife, Pauline; and especially, his love of the outdoors. The Colorado Native Plant Society has lost a true friend. Our sympathy is extended to his daughter, Lori Hayes Yates of Riverside, California, and his son, George L. Hayes, Jr., of Fort Collins.



*Cercocarpus ledifolius*  
Artist: unknown



# CONPS Field Trip Policy

The Society wishes to remind field trip participants of the guidelines for participation in Society trips. By joining a CONPS field trip you indicate acceptance of these policies.

## 1. Plant collecting is forbidden on CONPS field trips, with two exceptions:

(1) Collecting is permissible for scientific study (with the appropriate collecting permit, if one is required for the area in question).

"Scientific study" means, for the purposes of this policy, study by a trained botanical scientist with an expectation that the study results will lead to published information; collected specimens will be deposited in a recognized, publicly-accessible herbarium.

(2) A trip leader or other person whose responsibility is to instruct trip participants may collect plants for immediate demonstration, explanation, or keying for full identification.

Such collecting should be done inconspicuously (so that persons not with the trip group are not offended or motivated to do likewise), and with reasoned regard for any possible effect on the plant population. However, collecting of rare, threatened, endangered or sensitive species should never be done for instructional purposes.

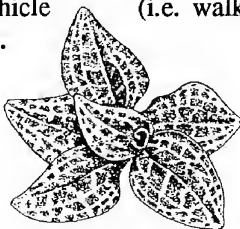
## 2. Rides and Cost-Sharing Policy: Car-pooling and ride-sharing are encouraged on CONPS trips. All drivers who provide rides to others will graciously accept payment from passengers according to the following scale:

- 1 passenger (in addition to driver) 5 cents per mile
- 2 passengers 4 cents per mile
- 3 passengers 3 cents per mile
- 4 passengers 2 cents per mile

Passengers should pay the driver at the conclusion of the trip, without being asked.

## 3. Pets are NOT permitted on CONPS field trips.

Pets trample plants, disturb wildlife, and annoy other trip participants. If pets must be brought along (although this is strongly discouraged), they must remain in or restrained to the owner's vehicle (i.e. walking about on a leash is NOT acceptable).



*Goodyera repens*  
Artist: Carolyn Crawford



*Populus deltoides*  
Artist: O. V. Kirkton

## 4. Field trips are designed primarily for adults, unless the trip description specifically states otherwise.

Parents should consider the appropriateness of a given trip to a child. If a child is brought, the parent assumes full responsibility for keeping the child under strict control to prevent his/her damaging or disturbing the flora or fauna, or becoming a burden to the group. No child unaccompanied by a parent is permitted.

## 5. CONPS's expressed purpose is to promote appreciation and preservation of our flora. Please tread lightly.

Take care not to damage the very features you have come to see and enjoy. Take photographs, sketches, or other means of recording the plants you see, and do not pick plants or plant parts.

## 6. Field trip participants MUST sign a waiver of liability.

# FIELD TRIPS — 1996

## GUANELLA PASS

Leaders: David Buckner and Pat Murphy  
Saturday, August 3, 1996

*Erigeron pinnatisectus*  
Artist: Janet Wingate



## NEOTA WILDERNESS

Leader: Jody Nelson

Location: See directions below

Saturday and Sunday, July 27 & 28, 1996, 8:00 a.m.

Jody Nelson will lead two one-day field trips in the Neota Wilderness near Cameron Pass. Participants are welcome for one or both days. On Saturday we will spend the day in the subalpine, first hiking in the morning to a subalpine lake that contains the only known population of *Subularia aquatica* L. in Colorado. After lunch we will drive to another entry point and hike to some of the wetlands common in the Neota Wilderness, where we may see some *Eriophorum*, gentians, primroses, and other plants. Sunday we will hike up through the spruce-fir forests and explore fellfields and tundra meadows and enjoy the nice views.

To reach the Neota Wilderness area, take Highway 14 west of Fort Collins approximately 60 miles. We will meet at the Blue Lake Trailhead at 8:00 a.m. on Saturday. It is approximately two miles west of the Chambers Lake campground on Highway 14. From there we will drive another seven miles on Long Draw Road to our first entry point. On Sunday we will meet at 8:00 a.m. at the Zimmerman Lake Trailhead (approximately five miles west of the Chambers Lake campground). Campsites are available along Long Draw Road, at Chambers Lake, and other nearby areas in the National Forest.

Because the Neota Wilderness has no trails, participants must be able and prepared to hike cross-country through often dense forest and wetlands. Stream crossings without bridges will be necessary. On Saturday we will hike approximately five or six miles with 1,000 feet of elevation gain. Sunday will be more strenuous, involving six to eight miles of hiking and 2,000 feet of elevation gain. Sturdy hiking boots (perhaps waterproof), rain gear, extra dry socks, insect repellent, and sun protection are recommended. Bring a lunch and plenty of water for each day. Nighttime temperatures are often in the 30s and daytime temperatures sometimes reach the 70s and 80s. Limit 15 people.

To register, call Jody Nelson at (303) 465-3034. Evenings are best or leave a message during the day. You may also register by e-mail at: Jody.Nelson@sdoct.com.

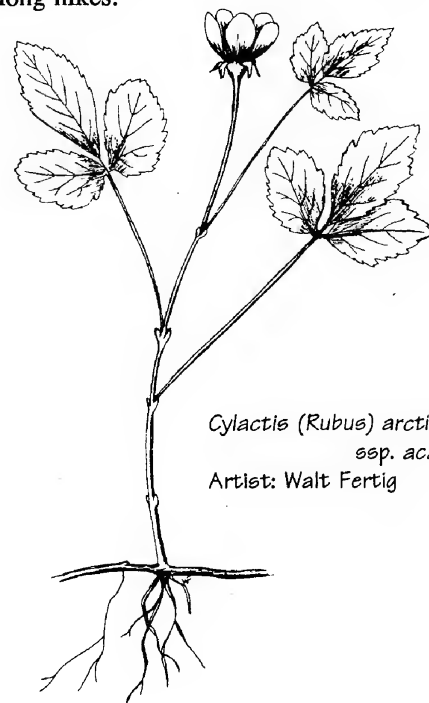
During 1995, David Buckner and ESCO Associates surveyed the Guanella Pass road between Georgetown and Grant to identify any rare plants that would be affected by widening the road. They found a number of species of special concern and will share their finds on this field trip to this area of special botanical interest.

During their survey, they found the moonwort *Botrychium lunaria*, a dwarf fern only an inch or two tall. They also saw several other moonworts that were still too immature to identify. With enough eyes searching for moonworts on this trip, there is an excellent opportunity to document important new moonwort sites in Colorado. (And if you've never seen a moonwort, now is your chance!)

Another rare species they found is the monkeyflower *Mimulus gemmiparus*, which propagates vegetatively by gemmules. With luck, we may document an expanded population. *Aquilegia saximontana* also grows here along with several uncommon species of fleabane: *Erigeron elatior*, *E. melanocephalus*, and *E. pinnatisectus*. Other unusual species are *Listera borealis*, *Cylactis (Rubus) arctica* ssp. *acaulis*, and the sedges *Carex oreocharis* and *C. scirpoidea*. A subalpine meadow on the south side of the pass supports a rare willow (*Salix candida*) and a rare grass (*Ptilagrostis porterii*).

Although several of this year's trips are more rigorous than in the past, everything on this trip is within a few hundred feet of the road and requires no long hikes.

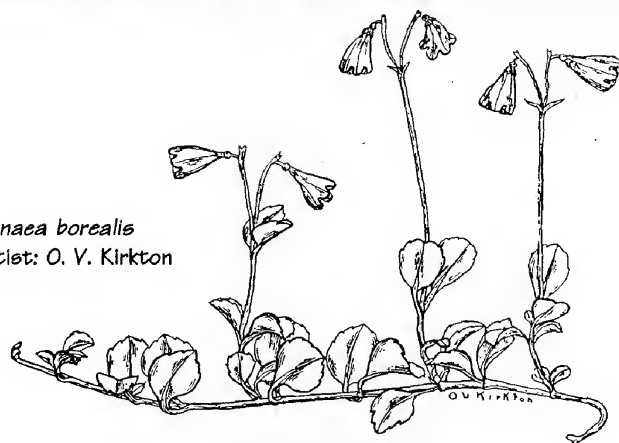
To register, contact David Buckner at (303) 447-2999.



*Cylactis (Rubus) arctica*  
ssp. *acaulis*  
Artist: Walt Fertig

# FIELD TRIPS — 1996

*Linnaea borealis*  
Artist: O. V. Kirkton



## SNOW MESA

Leader: Janet Coles

Meeting Location: Spring Creek Pass  
Saturday, August 3, 1996, 6:30 a.m.

Snow Mesa is an alpine plateau in the shadow of the Continental Divide in the eastern San Juan Mountains. Like much of the region, Snow Mesa is composed of 20–30-million-year-old layers of lava and volcanic ash. What makes this area interesting is that (1) it has not been botanized, (2) it was never covered by glaciers, and thus could harbor disjunct plant species stranded by the end of the latest Ice Age, and (3) it includes the largest alpine wetland complex in Colorado.

Meet at 6:30 a.m. at Spring Creek Pass, on Highway 49 between Creede and Lake City. A large number of Forest Service campgrounds are available in the area—arrival the evening before is recommended. A list of roadside rare plant localities between Denver and Creede will be available for those who have time on Friday or Sunday to do some extra botanizing.

This will be a physically challenging trip. We will shuttle from the top of the pass to the bottom of the mesa, then climb cross-country 2,000 feet to the top. The top of the mesa is over 12,000 feet in elevation. At this elevation and time of year, thunderstorms are a real possibility, and may include lightning, rain, sleet, or snow. Come prepared for changing weather and a long, rewarding day.

Plant collection will be allowed, using CONPS guidelines.

Useful reference materials: Baldy Cinco and Slumgullion Pass 7.5' USGS topographic maps, Rio Grande National Forest map. This is also a good opportunity to try out Sue Komarek's new book, *Flora of the San Juans: A Field Guide to the Mountain Plants of Southwestern Colorado*.

To register, call Janet Coles (303) 866-3203 ext. 330. **Note: This trip could be cancelled on short notice if the weather is inclement; call Janet for updated information as the trip date approaches.**

## UNCOMPAHGRE / AMERICAN BASIN WILDFLOWER HIKE

Leader: Gay Austin

Meeting Location: See below  
Saturday and Sunday, August 10 & 11, 1996

The Lake City area of Colorado has a short but colorful season for high altitude wildflowers. Saturday will be spent hiking above timberline in the Uncompahgre Wilderness. We will walk a moderately strenuous 4 mile (2 up and 2 down) trail which starts at 11,440' in elevation. We will turn around at the first steep ridge leading up to the top of Uncompahgre Mountain, depending on group consensus. Sunday we will hike a leisurely to moderately strenuous 2.2 miles through American Basin to Sloan Lake, southwest of Lake San Cristobal (11,300' up to 12,000'). Both of these hikes contain a wide variety of alpine vegetation and spectacular views of Uncompahgre Peak (14,309') and other peaks over 13,000'.

On the Uncompahgre Trail, the vegetation changes from a spruce-fir forest with lush meadows of corn lily, blue bells, and Thurber fescue to above-timberline alpine plant communities, and finally, alpine tundra with snow willow, arctic gentians, alpine forget-me-nots, sky pilots, primrose, and many others. The American Basin Trail also begins in spruce-fir vegetation, passes through grassy moist meadows, and then heads up to the alpine with magnificent views of Handies Peak and the surrounding wildflower-filled basin.

To get to the Uncompahgre Trailhead, drive about an hour (58 miles) southwest of Gunnison to Lake City, then approximately 5.5 miles west on Engineer Pass Road/Henson Creek Road to Nellie Creek Road (4-wheel-drive Forest Road 877). The trailhead is located 5 miles north on Nellie Creek Road. A 4-wheel-drive shuttle up Nellie Creek Road will be provided if needed (please let leader know as soon as possible). The trip will begin Saturday morning at 8:00 a.m. at the intersection of Nellie Creek Road and Engineer Pass Road.

Friday and Saturday nights we will camp at the Williams Creek Campground 9.2 miles southwest of Lake City. Drive 2.5 miles south of Lake City on Highway 149, turn west toward Lake San Cristobal, and travel 6.7 miles to the Williams Creek Campground and Trailhead. Hotel information for Lake City is also available from the trip leader.

Plan to carry a lunch, water, and rain gear Saturday and Sunday. Sturdy hiking boots and sun protection are highly recommended. Nights may cool down to the 30s; daytime temperatures should be in the 70s and 80s (with the exception of a stormy day—knock on wood!). For more information/trip maps, call Gay Austin at (303) 641-6264 after 6:00 p.m. or (303) 641-0471 Monday through Friday during the day.

# FIELD TRIPS — 1996

## SAN LUIS VALLEY

**Leaders: Carol (Scheld) Riley and Dr. Hobart Dixon**  
**Saturday and Sunday, August 17 & 18, 1996**

Explore the treasures of Colorado's San Luis Valley. This high altitude desert spans an area the size of Rhode Island. It is bordered on the east by the majestic Sangre de Cristo Mountains and by the volcanic San Juan Mountains on the west.

After a Friday evening under the stars at San Luis Lakes State Park (tent and RV campground with showers!), we will depart for an exciting day of botanizing in San Luis Valley wetlands. We'll be in search of *Cleome multicaulis*, the rare little beeplant or slender spiderflower in the Capparaceae (Caper) family, and other fascinating botanical residents.

On an optional Sunday field trip, we will savor the sand, sun, and dune plants at the nearby Great Sand Dunes National Monument. Some of the same plants occur here that are found in the sandhills of northeast Colorado, including *Muhlenbergia pungens* (ring grass) and *Achnatherum (Oryzopsis) hymenoides* (Indian ricegrass). Other nearby attractions include the unique town of Crestone, the Monte Vista and Alamosa National Wildlife Refuges (seasonal home to migrating sandhill and whooping cranes) and, yes, the San Luis Valley alligator farm (that's right!).

To register and for directions, contact Carol Riley at (970) 493-1367. This trip is limited to 15 people.

**IMPORTANT:** If you are planning on camping at Great Sand Dunes National Monument, you should plan to arrive by noon on Friday to get a campsite: it fills up quickly. There is usually plenty of room at San Luis Lakes State Park.



*Cleome multicaulis*  
 Artist: Walt Fertig

## ROCKY FLATS

**ENVIRONMENTAL TECHNOLOGY SITE and ENVIRONS**  
**Leader: Ken Brakken, Department of Energy**  
**Saturday, September 14, 1996**

The Rocky Flats area between Golden and Boulder, including the Buffer Zone around the Department of Energy facility, has recently been identified as one of the most biologically diverse areas along the Front Range. Surveys by the CU Museum, Colorado Natural Heritage Inventory and the Jefferson County Nature Association have identified what appear to be some of the best remaining examples of North American big bluestem—little bluestem xeric tallgrass prairie.

Several species of rare plants occur in the area including fork-tip three awn (*Aristida basiramea*) and narrow-leaved milkweed (*Asclepias stenophylla*). These, along with the infrequent prairie dropseed (*Sporobolus heterolepis*), are disjuncts from mid-western prairies.

A unique, seep shrubland dominated by hawthorn (*Crataegus erythropoda*), chokecherry (*Padus [Prunus] virginiana*), and American plum (*Prunus americana*) was first discovered here by the Heritage Program. Numerous seep areas and springs occur where the contact between the Rocky Flats Alluvium and the less permeable Arapahoe Formation outcrops on hillsides. One extensive spring area, Antelope Springs, is not far from a historic stage stop. Other rare plant associations include a plains cottonwood riparian woodland (*Populus deltoides*-*Salix amygdaloides*/*Salix exigua*) and leadplant (*Amorpha fruticosa*) riparian shrubland.

What may be one of North America's rarest mammals, Preble's meadow jumping mouse (*Zapus hudsonius* ssp. *preblei*) is found along drainages on the site. It is under consideration for listing as threatened or endangered. Loggerhead shrikes, which are seriously declining in other parts of their range, are also found here.

This field trip offers an opportunity to visit areas that have been off-limits to the public for many years. It is also an opportunity to learn about the serious threats facing the area and a chance to become involved in protection efforts. Much of the area has been proposed for open space but there are also plans for mining and commercial development. Jefferson County has given conditional approval for gravel mines on two of the tallgrass prairie relicts, pending the outcome of a study of tallgrass prairies in Jefferson County. Serious infestations of knapweed (*Acosta diffusa*) and other exotic weeds threaten the long-term viability of this area.

Volunteers are needed this summer to help examine these prairie areas in order to help protect them. If you would like to volunteer to help survey, contact Sally White (303-697-5439) or Rick Brune (303-238-5078) for more information. To register for the field trip, contact Rick Brune at 238-5078. The prairie grasses should be beautiful at this time of the year.

*Andropogon gerardii*  
Artist: unknown



## Field Trip Report Plateau Chapter

Although it was still early for spring wildflowers, the Plateau Chapter of the Colorado Native Plant Society was able to get in an early field trip in Montrose on March 30th. The Uncompahgre Basin Resource Area of the Bureau of Land Management (BLM) presented information about their satellite vegetation mapping project and led a tour through their herbarium.

Jim Ferguson of the BLM described the multi-agency effort to map existing vegetation in the southwestern quarter of the state using Landsat imagery. He showed maps of the vegetation in the Uncompahgre watershed, where the mapping has been completed.

Evelyn Horne then demonstrated techniques for mounting herbarium specimens. She is working in conjunction with the BLM to mount a collection of plants from Peggy Lyon's recent floristic inventory of the San Miguel and Lower Dolores watersheds. Much of this collection will be housed in the Montrose BLM office, which is open to the public. The group then toured the herbarium, and had an opportunity to examine specimens.

### Rick Brune

**Checklist of Vascular Plants of Boulder County, Colorado.** 1995. William A. Weber. Natural History Inventory of Colorado No. 16. 66 pages. University of Colorado Museum.

The title of this publication hides the fact that it is much more than a list of plants known to occur in Boulder County. It's true that the list of plants is 26 pages long and contains about 1538 species—nearly one-half of the vascular species known in Colorado. Each species listing also contains general information about habitat and sometimes specific locations and interesting comments about the species. A collection date and number are given for many species.

The first 16 pages of this publication provide a fascinating and very readable account of the history, biology, plant geography, life zones, and other aspect of Boulder County that contribute to the diversity of the county. Dr. Weber begins with a description of the earliest beginnings of botanical study and collecting in Boulder County and traces it to the present. He also includes two pages of discussion of the present threat by exotic weeds to this flora, as well as to the

native flora of the rest of Colorado and the West.

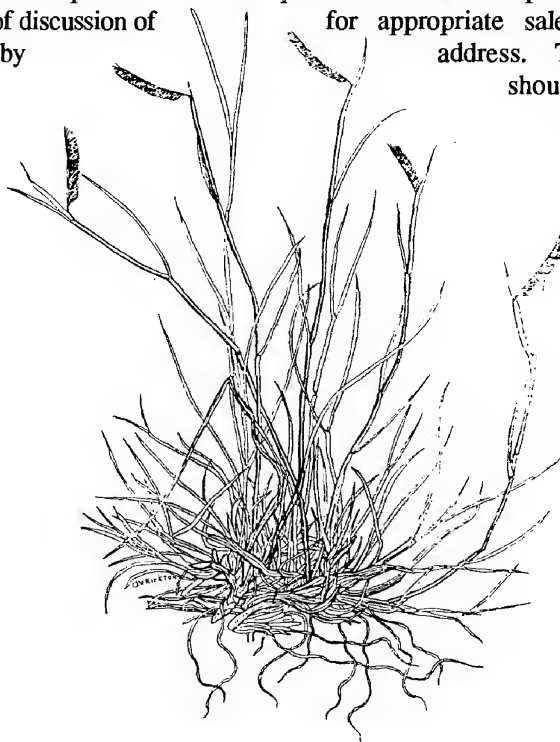
The topography of the county is described as it relates to the many life zones and habitat types that are present and responsible for much of the floristic diversity. Specific sites (e.g., White Rocks) and habitats (e.g., tallgrass prairies and Niobrara shales) with unusual or especially interesting floras are also described.

Discussions of plant geography and floristic patterns provide insight into relictual populations of species such as limber pine (*Pinus flexilis*) at Pawnee Buttes and eastern woodland and prairie relicts in the Boulder area. Local endemics such as *Selaginella weatherbiana* and *Harbouria trachypleura* are described.

Anyone interested in the flora of Colorado should add this fascinating account of the Colorado flora to their library. Much of the information also applies to adjacent areas of the Front Range. This publication contains lots of interesting information for a very low price.

Regular price is \$5.00. CONPS Member price is \$4.00 + \$1.50 postage. See page 11 for appropriate sales tax for your address. This publication should be available at CONPS chapter meeting so you can save on postage.

*Chondrosium*  
(*Bouteloua*) *gracille*  
Artist: O. V. Kirkton



## CHAPTER NEWS

## FOR YOUR LIBRARY →

## Plateau Chapter

## July

Telluride Ski Area Expansion—Plant Tour

## August 4: Crag Crest Trail

Strenuous 10-mile hike at 11,000 feet. Meet at 9:00 a.m. at Eggleston Lake Campground off County Road 121. The trip will offer a variety of alpine plants and spectacular views from the top of Grand Mesa. Bring a lunch. Call Betty Hall (970) 241-5677 or Madeline Moos (970) 856-7266 for information.

## August 17: North Pole Parry Primroses

Light to moderate hike, but above 10,000 feet. Dress for cold weather. Meet at 9:00 a.m. at the Crested Butte visitor center to carpool (bring a 4-wheel-drive if you have one). The tour will be a leisurely hike of the limestone outcroppings to see Parry primroses in North Pole Basin.

## August 18: Monarch Moonwalk for Moonworts

Meet at 10:00 a.m. at the top of Monarch Pass to take a tour of the moonworts with Peter Root. The light to moderate hike will be along a ridge at 12,000 feet for 1/2 mile to however far we all want to go. For trip and lodging information in the Gunnison area, call Gay Austin at (970) 641-6264.

## August 25: Smith Point Savannah and Wet Meadow Tour

Meet at 10:30 a.m. at the Cold Springs Ranger Station off the Divide Road on the north end of the Uncompahgre Plateau. Participants will drive to several interesting points in the Smith Point Valley. The first stop will be to look at various tall bunchgrasses (*Festuca thurberi*, *Festuca arizonica*, *Ceratochloa* [*Bromus*] *carinata*[us], and *Achnatherum* [*Stipa*] *robusta*); the second stop will be to see grasses typically found underneath a ponderosa pine forest (*Muhlenbergia montana*, *Sporobolus*, and others); the third and final stop will be at a wet meadow in excellent condition. Contact Tony Hoag (970) 249-3564 for trip information and an update on Forest Service cabin availability.

CONPS is pleased to provide a selection of books to members at discount prices. If you are interested in any of the publications listed on the following page, contact:

Velma Richards  
3125 Monmouth Ave.  
Englewood, CO 80110  
(303) 794-5432



*Sibbaldia procumbens*  
Artist: Janet Wingate

Make check payable to CONPS. Postage costs are additional for books received by mail. If you want to save postage charges, you can pick up the books yourself (from Velma Richards in Denver, Lynn Riedel in Boulder, or Myrna Steinkamp in Fort Collins).

## Macrolichens of the Northern Rocky Mountains

by

Bruce McCune and Trevor Goward

Illustrations by Alexander G. Mikulin and the Authors

## Coverage:

Includes 518 species of macrolichens, 405 of which are known to occur in the northern Rocky Mountains, and 113 other species that are known from neighboring areas and are likely to occur in the northern Rockies. Approximately 90% of the macrolichens in the western three quarters of Colorado are treated in this book.

## Keys:

Three sets of introductory keys lead the reader to a particular species. The first set of keys are artificial keys emphasizing the best characters for practical identification. The second set of keys are included to help the reader acquire a sense of relationships among genera. A key to lichen-forming photobionts is also included.

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### PLATEAU (formerly San Juan) CHAPTER is compiling a book order for Western Slope Members

The Plateau Chapter of the Colorado Native Plant Society is putting together a book order for Western Slope members. If you would like to order one of the discounted books listed on page 11, contact:

Gretchen Van Reyper  
(970) 835-3268  
2126 L75 Lane  
Austin, CO 81410

COLORADO NATIVE PLANT SOCIETY — DISCOUNTED PUBLICATIONS ORDER FORM					
Title	Author	Price Each	Postage Each	Book Total	Postage Total
<i>Alpine Flower Finder</i>	J. Wingate & L. Yeatts	\$ 4.50	\$ 1.25		
<i>Catalogue of the Colorado Flora...</i>	W. A. Weber & R. C. Wittmann	\$ 36.00	\$ 2.00		
<i>Colorado Flora: Eastern Slope</i> (1996 edition)	W. A. Weber	\$ 24.00	\$ 2.00		
<i>Colorado Flora: Western Slope</i> (1996 edition)	W. A. Weber	\$ 24.00	\$ 2.00		
<i>Dictionary of Word Roots</i>	D. J. Borror	\$ 9.00	\$ 1.25		
<i>Field Guide to Colorado Wildflowers - Volume 1</i>	G. K. Guennel (plains & foothills volume)	\$ 18.75	\$ 2.00		
<i>Field Guide to Colorado Wildflowers - Volume 2</i>	G. K. Guennel (mountains volume)	\$ 18.75	\$ 2.00		
<i>Flora of the Great Plains</i>	Great Plains Flora Association	\$ 40.00	\$ 3.50		
<i>Flora of the Pacific Northwest</i>	C. L. Hitchcock & A. Cronquist	\$ 42.00	\$ 3.00		
<i>Flora of the San Juans</i>	S. Komarek	\$ 15.75	\$ 2.00		
<i>Floristic Survey: Black Forest</i>	Anne Maley	\$ 3.00	\$ 1.50		
<i>Grass Varieties In the U. S. A.</i> (1994 edition)	Lewis & Sharp	\$ 35.00	\$ 2.00		
<i>Handbook of Rocky Mountain Plants</i>	R. A. Nelson (revised by R. Williams)	\$ 16.00	\$ 2.00		
<i>How to Identify Grasses and Grasslike Plants</i>	H. D. Harrington	\$ 8.00	\$ 1.50		
<i>How to Identify Plants</i>	H. D. Harrington & L.W. Durrell	\$ 8.00	\$ 2.00		
<i>Illustrated Keys to the Grasses of Colorado</i>	J. Wingate	\$ 7.50	\$ 1.25		
<i>Intermountain Flora: Vascular Plants of the Intermountain West, U.S.A. by A. Cronquist, et al.</i>					
Volume One: Geo-Botanical History/Plant Geography/Glossary/Cryptogams/Gymnosperms		\$ 30.25	\$ 2.00		
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Volume Six: The Monocotyledons		\$ 36.00	\$ 3.50		
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<i>The Prairie Garden...</i>	R. Brune	\$ 3.25	\$ 1.25		
<i>Prairie Plants and Their Environment</i>	J. E. Weaver	\$ 11.00	\$ 2.00		
<i>Retracing Major Stephen H. Long's 1820 Expedition</i>	G. J. Goodman & C. A. Lawson	\$ 31.50	\$ 2.00		
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<i>A Utah Flora</i> (1993 edition)	Welsh, Atwood, Higgins, & Goodrich	\$ 68.00	\$ 3.00		
<i>Vascular Plants of Boulder County, Checklist of</i>	W. A. Weber	\$ 4.00	\$ 1.50		
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# CALENDAR OVERVIEW

## CHAPTER MEETINGS

### Plateau Chapter

- Jul ?** Telluride Ski Area Expansion Tour
- Aug 4** Crag Crest Trail Hike
- Aug 17** North Pole Parry Primroses Hike
- Aug 18** Monarch Moonwalk for Moonworts
- Aug 25** Smith Point Savannah & Wet Meadow

## RESTORATION FESTIVAL

July 26-28  
Breckenridge, Colorado

## 1996

**Jul 27-28**

Neota Wilderness  
with Jody Nelson

**Aug 3**

Guanella Pass  
with David Buckner & Pat Murphy

**Aug 3**

Snow Mesa  
with Janet Coles

**Aug 10-11**

Uncompahgre—American Basin  
with Gay Austin

**Aug 17-18**

San Luis Valley  
with Carol (Scheid) Riley

**Sep 14**

Rocky Flats  
with Ken Brakken

## FIELDTRIPS



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